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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,072

08/18/2003

Hong Cao

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EXAMINER

NGUYEN, SANG H

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.	Applicant(s)	
	10/644,072	CAO ET AL.	
	Examiner	Art Unit	
	Sang Nguyen	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/17/06 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knop et al (U.S. Patent No. 5,296,257) in view of Campbell et al (U.S. Patent No. 5,863,673).

Regarding claims 1 and 5; Knop et al teaches a method for determining the degree of loading or coating substance onto a paper web (4 of figure 1); comprising:

- measuring the transmittance of light (M1 of figure 1) of the paper web (4 of figure 1) by a rotation measurement unit (15 of figure 1) when in an unloaded state considered to be uncoated material on the paper web (4 of figure 1 and col.7 lines 35-44 and col.8 lines 1-3);

- measuring the transmittance of light (M3 of figure 1) of the coated material onto the paper web (4 of figure 1) by another measurement unit (18 of figure 1) when in a loaded state considered coating material on the paper web (4 of figure 1 and col.7 lines 45-53 and col.8 lines 4-8);
- comparing the difference in transmittance (M1 of figure 1) from the unloaded (i.e. before coated) state to the loaded state (after coated) by a computer (20 of figure 1 and col.9 lines 1-3) and therefrom determining the degree of loading (coating) on the paper web (col.9 lines 4-35). See figure 1-2.

Knop et al teaches all of features of claimed invention except for the waterproofing agent is polytetrafluorethylene within the carbon substrate, wherein the carbon substrate is dark in color. However, Campbell et al teaches that it is known in the art to provide the waterproofing agent is polytetrafluorethylene (col.3 lines 10-13) within the carbon substrate (col.7 lines 15-21), wherein the carbon substrate is dark in color (col.3 lines 35-37 and table 1). See figures 1-9.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method for determining the degree of loading or coating medium onto a material web of Knop et al with the waterproofing agent is polytetrafluorethylene within the carbon substrate, wherein the carbon substrate is dark in color as taught by Campbell et al for the purpose of performing webs having electrical conductivity and electrically conductive filler.

Regarding claims 2-3; Knop et al discloses all of features of claimed invention

except for the carbon substrate is a carbon fiber paper or a carbon cloth. However, Campbell et al teaches that it is known in the art to provide the carbon substrate is a carbon fiber paper or a carbon cloth (table 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method for determining the degree of loading or coating medium onto a material web of Knop et al with carbon substrate is a carbon fiber paper or a carbon cloth as taught by Campbell et al for the purpose of reducing cost of production with a high quality of level conductivity.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knop et al in view of Campbell et al as applied to claim 1 above, and further in view of Background of Prior Art of Present Invention (page 2).

Regarding claim 4; Knop et al in view of Campbell et al discloses all of features of claimed invention except for a continuous web impregnated with an electrically conductive filler. However, PAPI teaches that it is known in the art to provide a continuous web impregnated with an electrically conductive filler (page 2 line 10-14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method for determining the degree of loading or coating medium onto a material web of Knop et al with a continuous web impregnated with an electrically conductive filler as taught by PAPI for the purpose of reducing cost of production with a high quality of level conductivity.

Claims 6-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knop et al in view of Campbell et al as applied to claim 1 above, and further in view of Bonsel et al (U.S. Patent No. 6,197,147).

Regarding claims 6-8 and 11; Knop et al in view of Campbell et al discloses all of features of claimed invention except for the waterproofing agent is selected from the group consisting of polyethylene, polypropylene and ethylene-propylene copolymer and the degree of loading of the waterproofing agent within the carbon substrate when in loaded state ranges from 1 % to 50 % or 4 % to 30 % by weight, wherein the carbon substrate has a thickness of less than 0.5 mm. However, Bonsel et al teaches that it is known in the art to provide the waterproofing agent (col.1 lines 35-38) is selected from the group consisting of polyethylene, polypropylene and ethylene-propylene copolymer (col.4 lines 1-40) and the degree of loading of the waterproofing agent (col.1 lines 35-38) within the carbon substrate when in loaded state ranges from 1 % to 50 % or 4 % to 30 %by weight. (col.3 lines 10-16 and col. 6 lines 40-55), wherein the carbon substrate has a thickness of less than 0.5 mm (col.3 lines 5-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method for determining the degree of loading or coating medium onto a material web of Knop et al with the waterproofing agent is selected from the group consisting of polyethylene, polypropylene and ethylene-propylene copolymer and the degree of loading of the waterproofing agent within the carbon substrate when in loaded state ranges from 1 % to 50 % or 4 % to 30 % by weight, wherein the carbon substrate has a thickness of less than 0.5 mm as taught by Bonsel et al for the purpose of the production low cost and

performance satisfy the requirements of users with high mechanical stability, a high temperature resistance and an adequate resistance of chemicals using materials in electrochemical cells.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knop et al in view of Campbell et al as applied to claim 1 above, and further in view of Bauer (U.S. Patent No. 4,737,651).

Regarding claims 9-10; Knop et al in view of Campbell et al discloses all of features of claimed invention except for the light source for transmitting and measuring at 4000 A to 7000 A, wherein the light source is selected from the group consisting of halogen, tungsten, fluorescent and UV lamps. However, Bauer al teaches that it is known in the art to provide the light source (12 of figure 1) for transmitting and measuring at 4000 A to 7000 A (col.3 lines 25-30), wherein the light source (12 of figure 1) is selected from the group consisting of halogen, tungsten, fluorescent and UV lamps (col.2 lines40-49). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine method for determining the degree of loading or coating medium onto a material web of Knop et al with the light source for transmitting and measuring at 4000 A to 7000 A, wherein the light source is selected from the group consisting of halogen, tungsten, fluorescent and UV lamps as taught by Bauer for the purpose of good transmitting light through weight paper substrate and detecting accurately coating paper substrate.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moshe (6967721) discloses method and device for non-invasively optically; Damer et al (6160625) discloses laser scanner projection system; Feller et al (5654554) discloses method and apparatus for the recording of properties on elongate bodies; .Dukes et al (4990784) discloses nonlinear averaging compensated measurements; Ikin (4522497) discloses web scanning apparatus; Broes et al (4316093) discloses sub-100A range line width pattern; or Doering (3596071) discloses method and apparatus for a material treater.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 5, 2006
SN


Sang Nguyen
Patent Examiner
Art Unit 2877